Solution Representation:-

The solution is represented in a form of list of items, along with their weight and custom priority value.

Fitness Function:-

The fitness function takes a list and returns its total fitness value.

Crossover function:-

The crossover function takes index values of parents, makes children by crossing over at a certain probability. After that it sends the children to mutation function.

Mutation function:-

Mutation function takes two children, mutates the items at a certain probability without crossing the weight limit. Later it appends the fitness values with the children and append them to generations list.

Selection function:-

Selection function randomly generates two numbers between 0 and no\_of\_parents-1, this is served as location of parents in sorted generations list. Later it sends the values to crossover function.

The selection function is made to run for no\_of\_gen times. After that, the termination is occurred. The best result in the sorted generations list is printed, and the best value for each generation is plotted in the graph.